

Figure 1. THEMIS daytime infrared mosaic (100 m per pixel) of the map region.

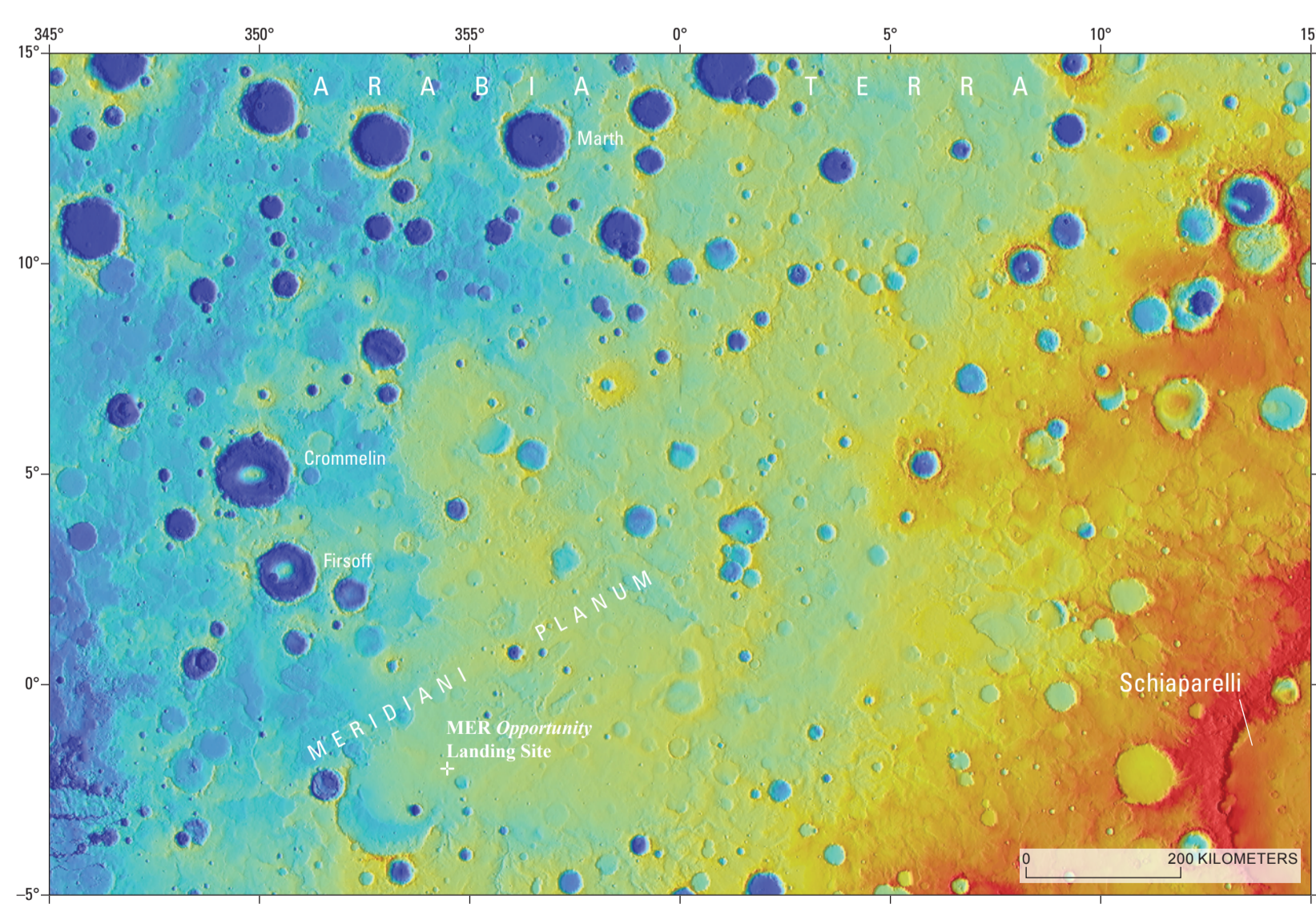


Figure 2. MOLA hillshade map of the region overlaid by color elevation values (403 m per pixel).

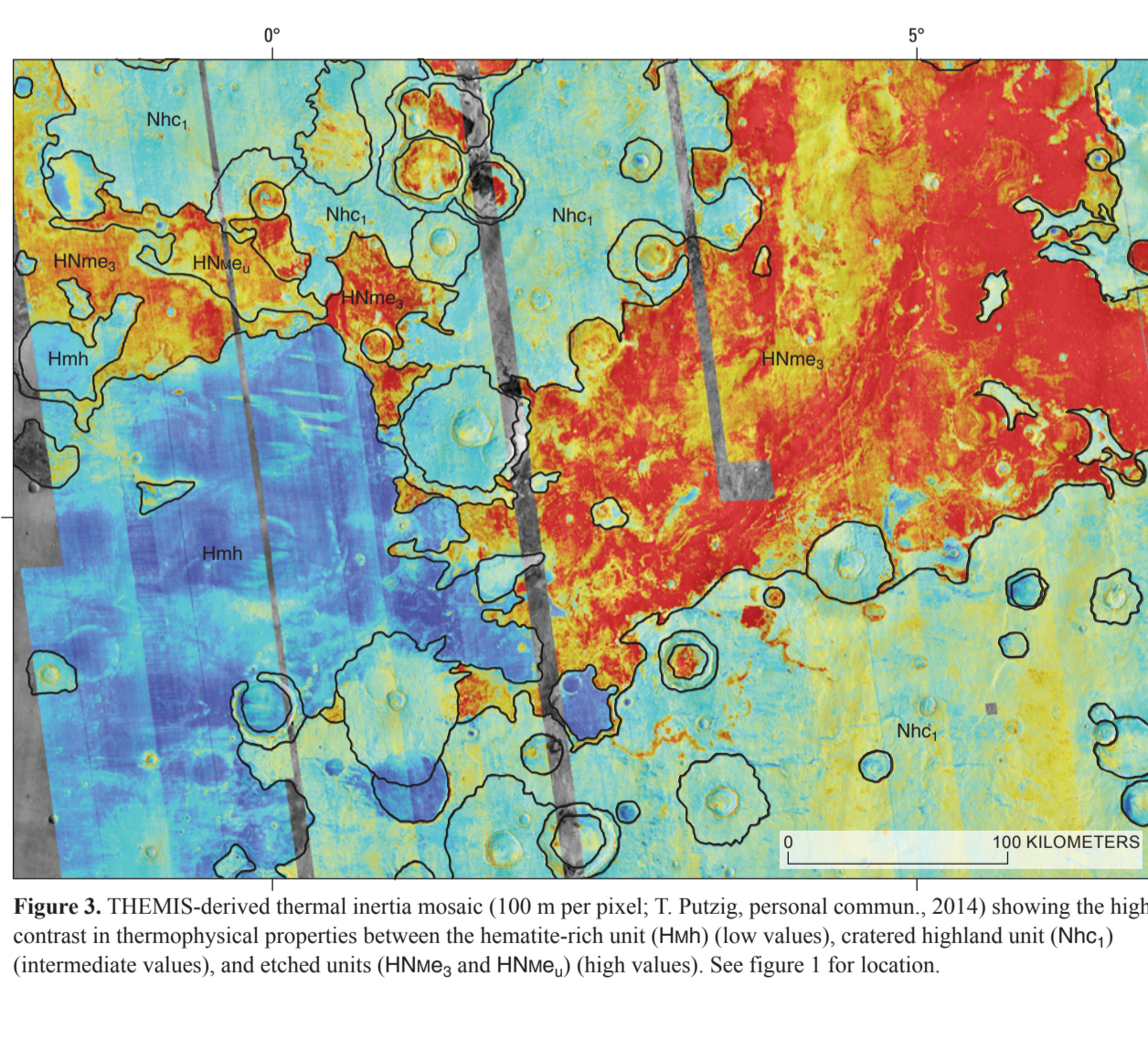


Figure 3. THEMIS-derived thermal inertia mosaic (100 m per pixel). 1° Planis, personal communication, 2010 showing the high center in thermal properties between the hematite-rich unit (Hh) (low values), centered highland unit (Nc), (intermediate values), and etched units (HhNc, and HhNc). See Figure 1 for location.

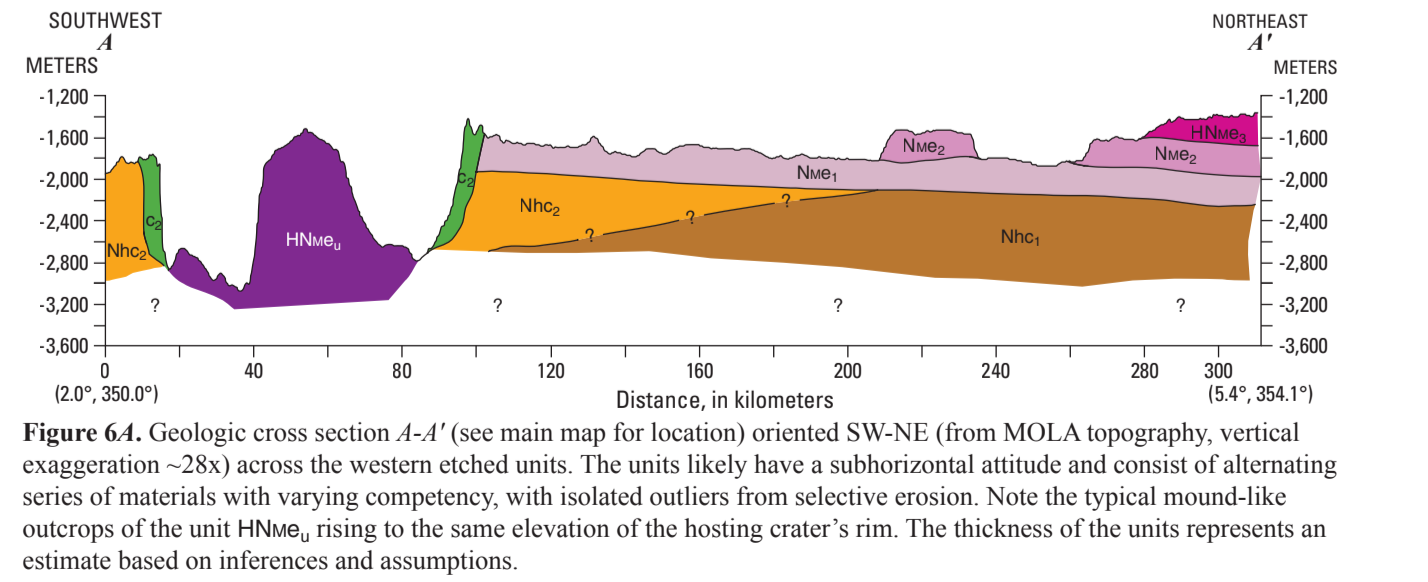


Figure 4. Geologic cross-section A-A' (from main map) for location SWNE, showing vertical exaggeration of 20x across the western etched unit. The units likely have a subhorizontal attitude and consist of alternating series of materials with varying degrees of cementation, with isolated outcrops from selective erosion. Note the typical rounded shape of the unit and HhNc, rising to the same elevation of the bounding crater rim. The thickness of the units represents an estimate based on inferences and assumptions.

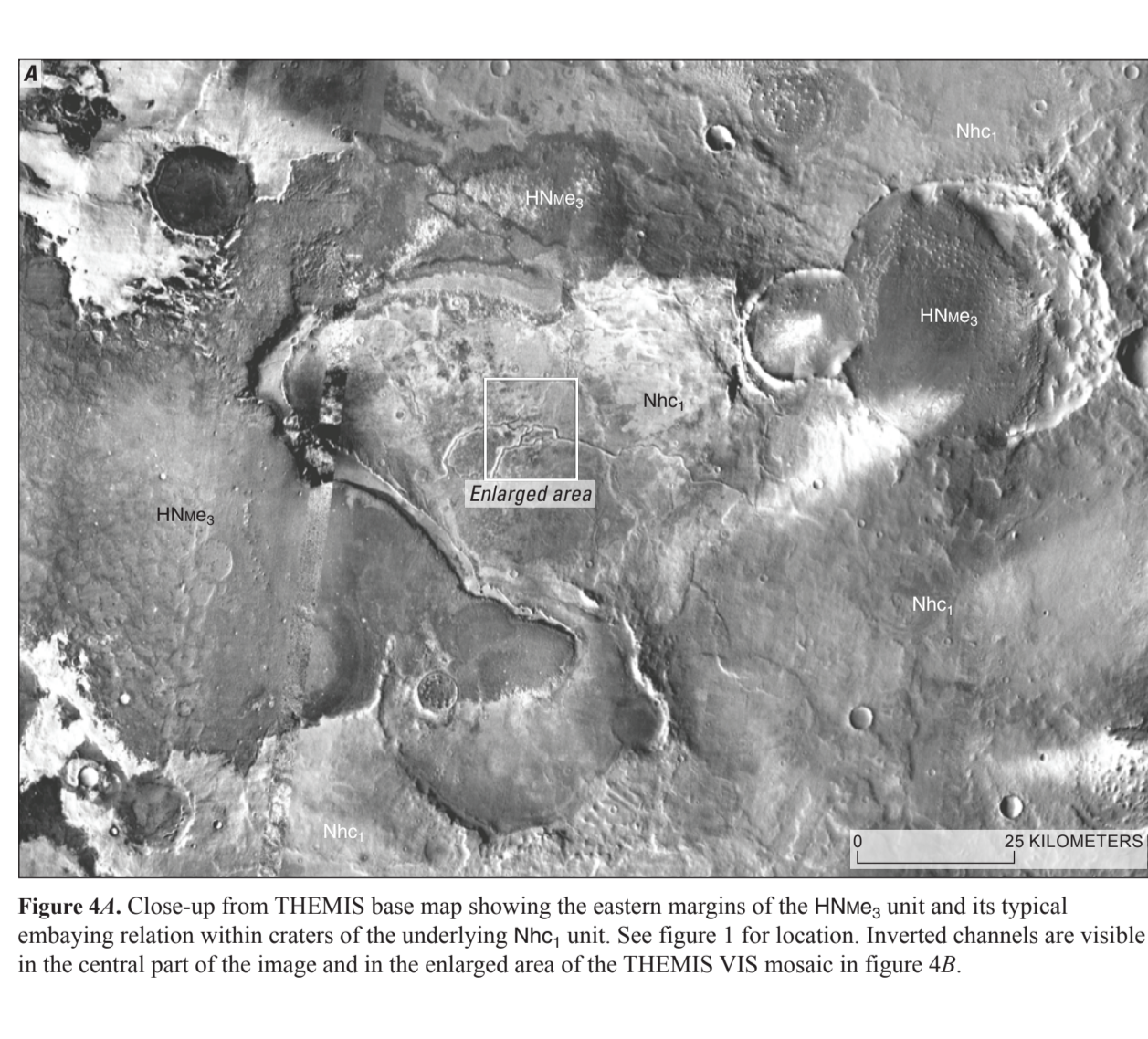


Figure 4A. Close-up from THEMIS true color image showing the eastern margin of the HhNc unit and typical outcrops of hematite within craters of the underlying Hh unit. See Figure 1 for location. Inverted channels are visible in the central part of the image and in the enlarged area of the THEMIS VIS mosaic in figure 4B.

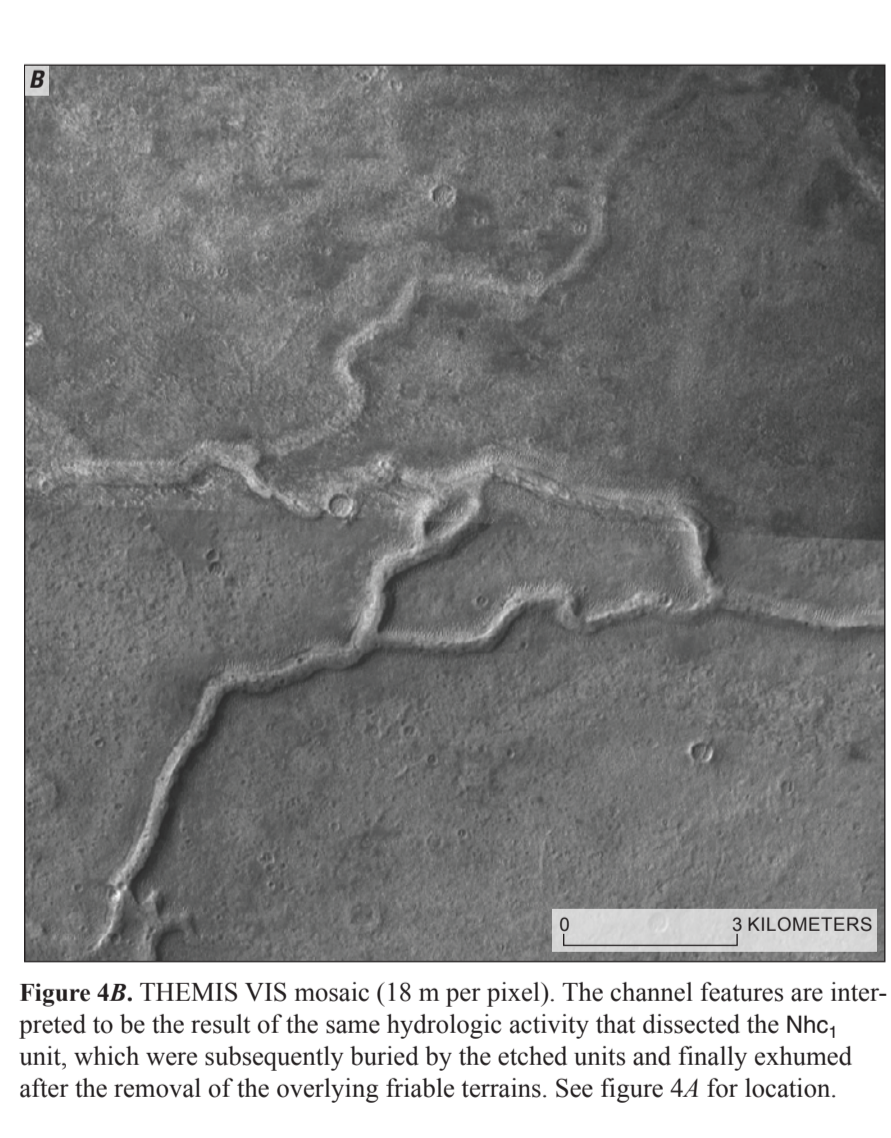


Figure 4B. THEMIS VIS mosaic (10 m per pixel). The channel features are interpreted to be the result of the same hydrologic activity that dissected the HhNc unit, which were subsequently buried by the etched unit and finally exhumed after the removal of the overlying HhNc unit. See Figure 1 for location.

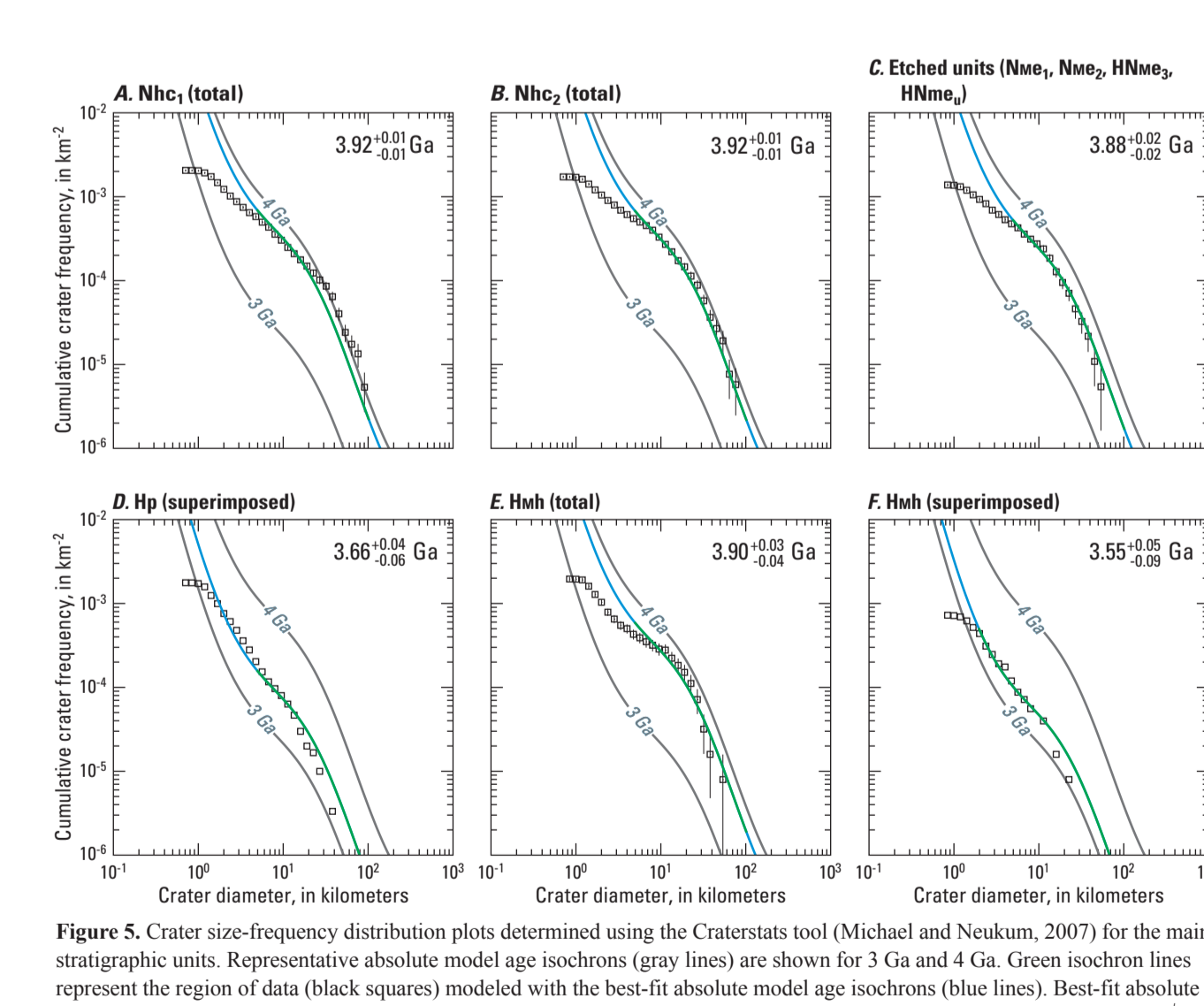


Figure 5. Crater size-frequency distribution plots determined using the Craterstat tool (Michael and Neukum, 2007) for the main stratigraphic units. Representative absolute model age isochrons (gray lines) are shown for 1 Ga and 4 Ga. Green isochron lines represent the region of data (black squares) modeled with the best-fit absolute model age isochrons (blue lines). Best-fit absolute model age and statistical uncertainties are listed on each plot. Error bars (vertical black lines) were calculated by standard ±N Poisson statistics.

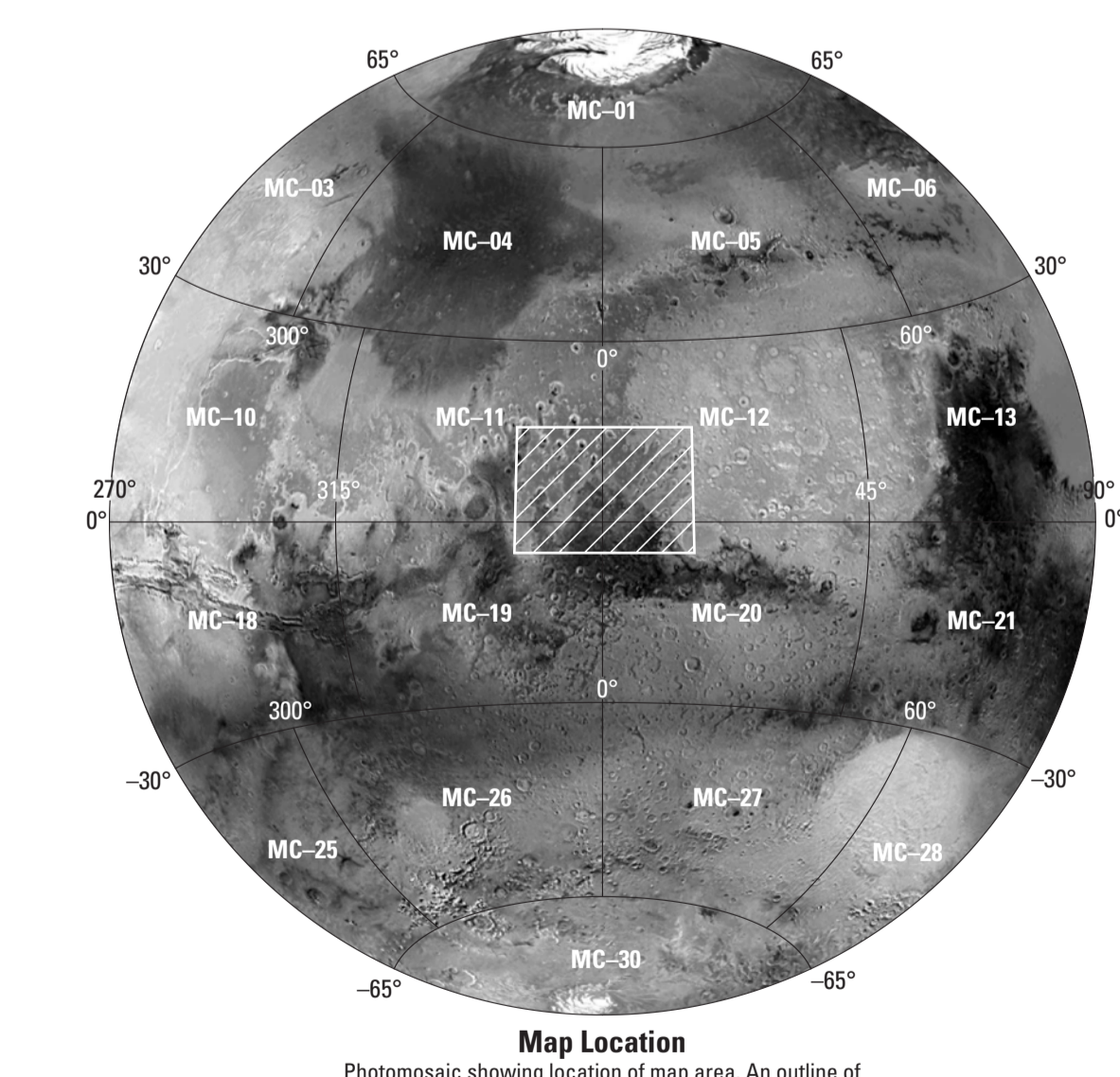


Figure 6. Map location showing location of map area. An outline of 1:500,000 scale quadrangle is provided for reference.

Geologic Map of Meridiani Planum, Mars

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